

UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

PATENT NO. : 7,022,107 B1
APPLICATION NO. : 09/670735
DATED : April 4, 2006
INVENTOR(S) : James Christensen et al.

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It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

The Title Page, showing an illustrative figure, should be deleted and substitute therefor the attached title page.

Replace Figure 1 with the corrected Figure 1 as attached.

Signed and Sealed this

Eighth Day of July, 2008

A handwritten signature in black ink, reading "Jon W. Dudas". The signature is stylized, with a large, looped initial "J" and a cursive "Dudas".

JON W. DUDAS
Director of the United States Patent and Trademark Office

(12) **United States Patent**
Christensen et al.

(10) **Patent No.:** **US 7,022,107 B1**
 (45) **Date of Patent:** **Apr. 4, 2006**

(54) **INFUSION PUMP WITH PRESSURE
 REGULATOR**

(75) **Inventors:** James Christensen, Glendora, CA
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 (US)

(*) **Notice:** Subject to any disclaimer, the term of this
 patent is extended or adjusted under 35
 U.S.C. 154(b) by 0 days.

(21) **Appl. No.:** 09/670,735

(22) **Filed:** Sep. 27, 2000

Related U.S. Application Data

(63) Continuation-in-part of application No. 09/400,579,
 filed on Sep. 22, 1999.

(51) **Int. Cl.**
A61M 37/00 (2006.01)

(52) **U.S. Cl.** 604/141; 604/891.1

(58) **Field of Classification Search** 604/890.1,
 604/891.1, 151, 153, 154, 131, 132-135,
 604/150, 152, 141, 892.1

See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

3,731,681 A 5/1973 Blackshear et al. 128/214

3,993,069 A	11/1976	Buckles et al.	128/214 F
4,106,510 A	8/1978	Hakim et al.	128/350
4,299,220 A	11/1981	Dorman	128/260
4,714,462 A *	12/1987	DiDomenico	604/67
4,718,893 A	1/1988	Dorman et al.	604/67
4,772,263 A	9/1988	Dorman et al.	604/132
5,061,242 A	10/1991	Sampson	604/118
5,067,943 A	11/1991	Burke	604/141
5,080,652 A	1/1992	Sancoff et al.	604/132
5,088,983 A	2/1992	Burke	604/141
5,242,406 A	9/1993	Gross et al.	604/132

* cited by examiner

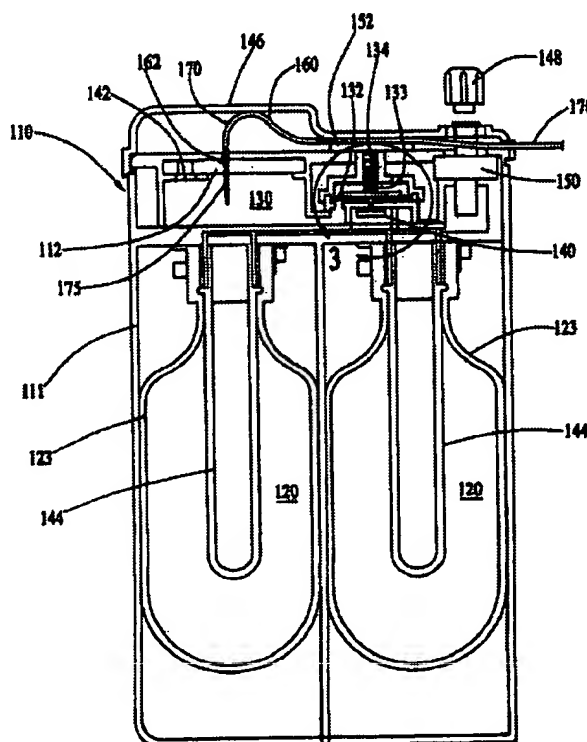
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 Heybl; Michael J. Ram

(57) **ABSTRACT**

An infusion pump for infusing drugs or other fluids into the body. The pump consists of two chambers. The storage chamber holds a large volume of drug at a variable and elevated pressure, which exceeds the preselected outflow pressure. The outflow chamber holds a smaller volume of drug at a constant outflow pressure. A moveable diaphragm attached to a valve controls the entry of the drug from the storage chamber into the outflow chamber. The pressure of the drug in the outflow chamber is determined by the forces applied to the diaphragm. The drug from the outflow chamber flows through a flow restrictor and catheter into the patient at a constant flow rate.

7 Claims, 3 Drawing Sheets



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FIG. 1

